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## United States Department of Agriculture,

## BUREAU OF ENTOMOLOGY,

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## HOUSE ANTS.

*Monomorium pharaonis* et al.

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There are a number of species of ants often occurring in houses, the more important of which are common to both hemispheres and are probably of Old World origin. One of these, the little red ant (*Monomorium pharaonis* L.), has become thoroughly domesticated and passes its entire existence in houses, having its nests in the walls or beneath the flooring and usually forming its new colonies in similar favorable situations.

Two other ants are very common nuisances in houses, namely, the little black ant (*Monomorium minutum* Mayr) and the pavement ant of the Atlantic seaboard (*Tetramorium cespitum* L.). None of these ants is so destructive to household effects or

supplies as it is annoying from the mere fact of its presence and its faculty of "getting into" articles of food, particularly sugar, sirups, and other sweets. Having once gained access to stores of this sort, the news of the discovery is at once conveyed to the colony, and in an incredibly short time the premises are swarming with these unwelcome visitors.

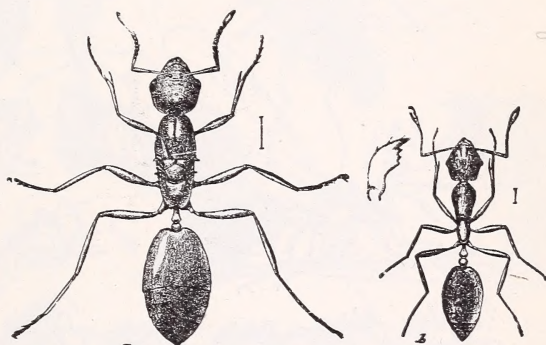


FIG. 1.—The red ant (*Monomorium pharaonis*): a, female; b, worker. Enlarged (from Riley).

## HABITS AND LIFE HISTORY.

In habits and life history these ants are all much alike and, in common with other social insects, present that most complex and interesting phase of communal life, with its accompanying division of labor and diversity of forms of individuals, all working together in the most perfect harmony and accord. The specimens ordinarily seen in houses are all neuters, or workers. In the colony itself, if it be discovered and opened, will be found also the larger wingless females and, at the proper season, the winged males and females. During most of the year, however, the colony consists almost exclusively of workers, with one or more perfect wingless females. Winged males and females are

produced during the summer and almost immediately take their nuptial flight. The males soon perish, and the females shortly afterwards tear off their own wings, which are but feebly attached, and set about the establishment of new colonies. The eggs, which are produced in extraordinary numbers by the usually solitary queen mother, are very minute, oval, whitish objects, and are cared for by the workers, the young larvæ being fed in very much the same way as in the colonies of the hive bee. The so-called ant eggs, in the popular conception, are not eggs at all, but the white larvæ and pupæ, and, if of females or males, are much larger than the workers and many times larger than the true eggs.

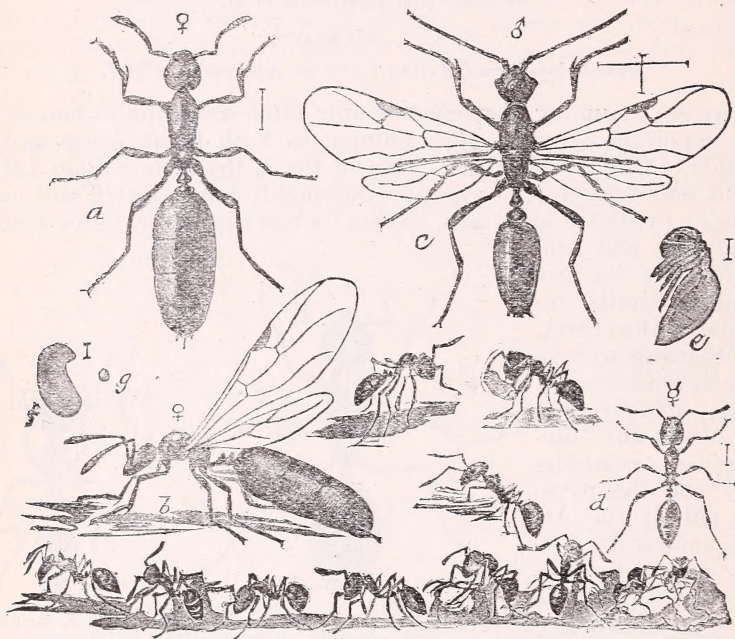


FIG. 2.—The little black ant (*Monomorium minutum*): a, female; b, same with wings; c, male; d, workers; e, pupa; f, larva; g, egg of worker. All enlarged (author's illustration).

#### THE RED ANT.

As a house species the red ant (*Monomorium pharaonis* L.) (fig. 1) is the common one. It is practically cosmopolitan, and its exact origin is unknown. This species, nesting habitually in the walls of houses or beneath flooring, is often difficult to eradicate. There is no means of doing this except to locate the nest by following the workers back to their point of disappearance. If in a wall, the inmates of the nest may sometimes be reached by injecting bisulphid of carbon or a little kerosene. If under flooring, it may sometimes be possible to get at them by taking up a section. Unless the colony can be reached and destroyed all other measures will be of only temporary avail.

#### THE LITTLE BLACK ANT.

The little black ant (*Monomorium minutum* Mayr) (fig. 2) is not strictly a house species, although frequently occurring indoors and becoming at times quite as troublesome as the red ant. Its colonies



usually occur under stones in yards, but are frequently found in the fields, and will be recognized from the little pyramids of fine grains of soil which surround the entrances to the excavations. If these colonies be opened, they will be found to contain workers and usually one or more very much larger gravid females. This species, when occurring in houses, can often be traced to its outdoor colony, and the destruction of this will prevent further trouble.

#### THE PAVEMENT ANT.

The pavement ant of our eastern cities (*Tetramorium cæspitum* L.) (fig. 3) is in Europe the common meadow ant and is two or three times larger than either of the other species referred to. It was early introduced into this country and, while not yet reported from the West, is very common in eastern towns, and particularly here in Washington. It has readily accommodated itself to the conditions of urban existence

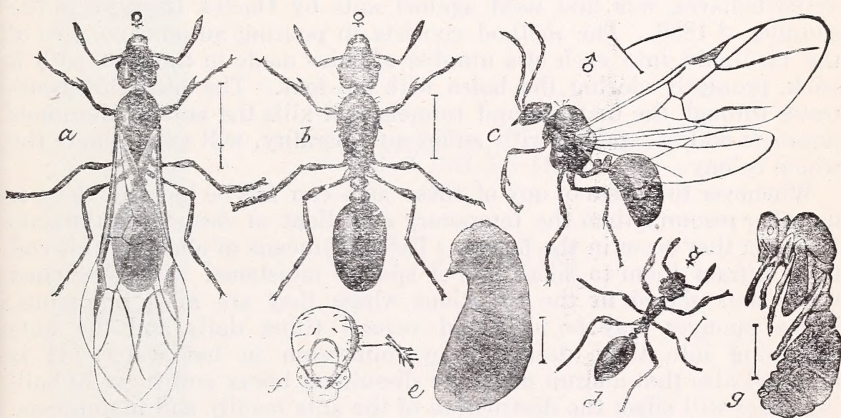


FIG. 3.—The pavement ant (*Tetramorium cæspitum*): a, winged female; b, same without wings; c, male; d, worker; e, larva of female; f, head of same; g, pupa of same. All enlarged (author's illustration).

and commonly has its colonies under pavements, where it is often difficult of access, or beneath flagging or stones in yards. It is often a more persistent and pestilent house nuisance than the true house ant.

This seems to be the species referred to by Kalm,<sup>1</sup> in 1748, as often occurring in houses in Philadelphia and manifesting a great fondness for sweets. He records also some interesting experiments made by Mr. (Benjamin?) Franklin, indicating the ability of these ants to communicate with one another.

The colonies of the pavement ant are often large, and they may be frequently uncovered in masses of a quart or more on turning over stones in yards or lifting flagging in paths.

Often with little difficulty this ant may be traced to its nest, which, if accessible or not thoroughly protected by unbroken pavement, as of asphalt, can be rather easily exterminated. So well established is the species, however, that new colonies will usually soon take the place of those destroyed.

<sup>1</sup> Kalm's Travels, Vol. I, p. 238.

Drenching the nests with boiling water or saturating them with coal oil, which latter also may be introduced into cracks in pavements or walls, is effective in abating the nuisance of this ant.

There are several other ants closely resembling this last, mostly species of *Lasius*, some foreign and some native, which form large colonies in yards, throwing up earthen ant hills, beneath which are extensive systems of underground galleries. These may often get into near-by houses and become quite as troublesome as the ants already mentioned.

#### MEANS OF ERADICATING ANTS.

In the foregoing account the important remedies for each species of ant discussed have been briefly indicated. A more detailed description of some of the methods of control or extermination follows:

Excellent success has been had in destroying these ants with the use of bisulphid of carbon applied in their nests. This substance, the writer believes, was first used against ants by Doctor Howard, in the summer of 1886. The method consists in pouring an ounce or two of the bisulphid into each of a number of holes made in the nest with a stick, promptly closing the holes with the foot. The bisulphid penetrates through the underground tunnels and kills the ants in enormous numbers and, if applied with sufficient liberality, will exterminate the whole colony.

Whenever the nests of any of these ants can not be located, there is no other resource than the temporary expedient of destroying the ants wherever they occur in the house. The best means of effecting this end is to attract them to small bits of sponge moistened with sweetened water and placed in the situations where they are most numerous. These sponges may be collected several times daily and the ants swarming into them destroyed by immersion in hot water. It is reported also that a sirup made by dissolving borax and sugar in boiling water will effect the destruction of the ants readily and in numbers. The removal of the attracting substances, wherever practicable, should always be the first step. Ants are attracted to houses by food materials or scattered sugar left about by children, and the nuisance of their presence can be largely eliminated by keeping all food products in a pantry or storeroom and limiting the amount of such products as strictly as possible to daily needs.

That it is possible to drive ants away from household supplies by the use of repellent substances, particularly camphor, has been asserted. The use of most repellent substances in connection with food supplies would be impracticable. Gum camphor has recently been the subject of a careful test by Dr. William T. Watson, of Baltimore, who found that while having slight repellent properties, it does not bring any really practical benefit.

Approved:

JAMES WILSON,  
*Secretary of Agriculture.*

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